ELEC/HIST 234 Technological Disasters
TTh 10:50-12:05

Course Description: From the Titanic to Betamax, some technologies become by-words for spectacular failure. Engineers use such disasters as object lessons in how to improve designs. The public uses them as a basis to evaluate unfamiliar technologies. Via case studies of differing technologies, in different countries, and across different eras, one can glimpse the way disasters reflect technology's role in society. How can 18th-century German forestry presage flaws in 20th-century standardized testing? What can cargo ship collisions tell us about challenges associated with the ever increasing use of satellite technology? Is one form of government or culture more prone to technological failure than another? This course gives an overview of common themes among disasters and aims for a holistic and interdisciplinary study of society's tenuous relationship with technology, including some surprising underlying causes of a few of the most famous disasters.

*If you never learned **why** something happened, you don't have much of a chance of stopping it from happening **again**.*

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Grading:	Homework	30%
	Participation	20%
	Mid-term exam	20%
	Final	30%

Participation: We will define participation rather broadly. If you attend class, contribute to discussion, and demonstrate a working knowledge of the readings you will get full participation credit. However, we may use a variety of methods to assess that working knowledge. Also, be prepared to offer your opinion of the readings when asked, or when you have idea that the rest of the class should know about. Failures of communication are an important cause of technological disasters – part of the point of this course is to get you talking about past disasters as a way to avert future ones.

Homework, midterm, final: there will be regular homework in this course. You will not need a math background to complete the homework, but assignments may ask you questions based on our explanations of the physical properties of various technologies. This will mostly be at the level of "How Stuff Works." Most assignments will also require prose answers to qualitative questions. The mid-term is usually either a project will ask you to investigate some technological disaster and describe it for lay people in a way that is entertaining, useful, and accurate, or in the form of an oral exam. For the final, you will likely be presented with technological disasters we have not covered in the course – you will be asked to apply the lessons of the course to those disasters.

Distribution credit and class size: Currently, those who are registered for HIST 234 will receive D1 credit and those registered for ELEC 234 will receive D3 credit. Also, both sections are currently capped at 22 students each. We will **not** be increasing the total size of the class beyond 28 students. However, we recognize that there is somewhat more demand for D1 credit than D3 credit in this course. We will try to ensure that everyone who wants D1 credit for this course can get it. However, please remember that (A) anyone who signed up for ELEC 234 and wants D3 credit has priority; and (B) there are no guarantees that the registrar will allow us to give more than 22 students D1 credit.

Note: Any student with a documented disability needing academic adjustment or any type of accommodations or has specific issues is requested to speak with us during the first two weeks of class. All discussions will remain confidential. Students with disabilities should also contact Disabled Student Services in the Allen Center.

Tentative Schedule:
Readings will be posted on Owlspace. Be prepared to discuss them on that day.

Week 1:	Computers & Electricity
Week 2:	Bridges & Tunnels
Week 3:	Canals, Levees, & Dams
Week 4:	Ships, Roads, & Trains
Week 5:	Airplanes
Week 6:	Space
Week 7:	Oil, Coal, & Energy
Week 8:	Nuclear Power
Week 9:	Statistics & Science Fraud
Week 10:	Dual-use & Nuclear Weapons
Week 11:	Agriculture & Biotechnology
Week 12:	Oil Refineries & Chemical Plants
Week 13:	Climate Change
Week 14:	Global North/South